CONTENTS

VOLUME 101 · NUMBER 1 · JANUARY 1993

1 JEFFREY W. KARPEN, R. LANE BROWN, LUBERT STRYER, and DENNIS A. BAYLOR. Interactions between divalent cations and the gating machinery of cyclic GMP–activated channels in salamander retinal rods

27 PASCAL DAUMAS and OLAF S. ANDERSEN. Proton block of rat brain sodium channels. Evidence for two proton binding sites and multiple occupancy

45 J.-W. LIN and R. LLINAS. Depolarization-activated potentiation of the T fiber synapse in the blue crab

67 SIMON LEVY and RICHARD PAYNE. A lingering elevation of Ca_i accompanies inhibition of inositol 1,4,5 triphosphate–induced Ca release in *Limulus* ventral photoreceptors

85 LUC DESMEDT, JEANNINE SIMAELS, and WILLY VAN DRIESSCHE. Ca^{2+}-blockade, poorly selective cation channels in the apical membrane of amphibian epithelia. UO_2^{2+} reveals two channel types

103 LUC DESMEDT, JEANNINE SIMAELS, and WILLY VAN DRIESSCHE. Ca^{2+}-blockable, poorly selective cation channels in the apical membrane of amphibian epithelia. Tetracaine blocks the UO_2^{2+}-intensive pathway

117 R. F. RAKOWSKI. Charge movement by the Na/K pump in *Xenopus* oocytes

145 CORRECTION

147 INFORMATION FOR AUTHORS

VOLUME 101 · NUMBER 2 · FEBRUARY 1993

153 DONALD D. DOYLE, YUEE GUO, STUART L. LUSTIG, JONATHAN SATIN, RICHARD B. ROGART, and HARRY A. FOZZARD. Divalent cation competition with [^{3}H]saxitoxin binding to tetrodotoxin-resistant and -sensitive sodium channels. A two-site structural model of ion/toxin interaction

183 STEPHAN FRINGS. Protein kinase C sensitizes olfactory adenylate cyclase

207 LE XU, RODNEY JONES, and GERHARD MEISSNER. Effects of local anesthetics on single channel behavior of skeletal muscle calcium release channel

235 HENK L. M. GRANZIER and KUAN WANG. Interplay between passive tension and strong and weak binding cross-bridges in insect indirect flight muscle. A functional dissection by gelsolin-mediated thin filament removal

271 MARSHA A. SEGERBERG and ANTONY O. W. STRETTON. Actions of cholinergic drugs in the nematode *Ascaris suum*. Complex pharmacology of muscle and motorneurons

297 LÁSZLÓ CSERNOCH, VINCENT JACQUEMOND, and MARTIN F. SCHNEIDER. Microinjection of strong calcium buffers suppresses the peak of calcium release during depolarization in frog skeletal muscle fibers

VOLUME 101 · NUMBER 3 · MARCH 1993

337 A. MICHAEL FRACE, PIERRE-FRANÇOIS MÉRY, RODOLPHE FISCHMEISTER, and H. CRISS HARTZELL. Rate-limiting steps in the β-adrenergic stimulation of cardiac calcium current

355 SEN JI, JAMES N. WEISS, and GLENN A. LANGER. Modulation of voltage-dependent sodium and potassium currents by charged amphiphiles in cardiac ventricular myocytes. Effects via modification of surface potential

377 KEN NAKAZAWA and PETER HESS. Block by calcium of ATP-activated channels in pheochromocytoma cells

393 S. HERING, A. D. HUGHES, E. N. TIMIN, and T. B. BOLTON. Modulation of calcium channels in arterial smooth muscle cells by dihydropyridine enantiomers

411 CARLO CAPUTO, PURA BOLAÑOS, and ADOM GONZALEZ. Effects of sulfhydryl inhibitors on depolarization–contraction coupling in frog skeletal muscle fibers

425 ADOM GONZALEZ, PURA BOLAÑOS, and CARLO CAPUTO. Effects of sulfhydryl inhibitors on nonlinear membrane currents in frog skeletal muscle fibers

453 BRADLEY G. REHNBERG, BRUCE I. MACKINNON, THOMAS P. HETTINGER, and MARION E. FRANK. Anion modulation of taste responses in sodium-sensitive neurons of the hamster chorda tympani nerve

VOLUME 101 · NUMBER 4 · APRIL 1993

469 ADRIENNE E. DUBIN and VINCENT E. DIONNE. Modulation of Cl^-, K^+, and nonselective cation conductances by taurine in olfactory receptor neurons of the mudpuppy *Necturus maculosus*

487 CHUN Y. SEOW and LINCOLN E. FORD. High ionic strength and low pH detain activated skinned rabbit skeletal muscle crossbridges in a low force state

513 DIRK J. SNYDERS, MICHAEL M. TAMKUN, and PAUL B. BENNETT. A rapidly activating and slowly inactivating potassium channel cloned from human heart. Functional analysis after stable mammalian cell culture expression

545 CHARLES J. VENGLARIK, ASHVANI K. SINGH, RUOPING WANG, and ROBERT J. BRIDGES. Trinitrophenyl-ATP blocks colonic Cl^- channels in planar phospholipid bilayers. Evidence for two nucleotide binding sites

571 DONALD L. CAMPBELL, RANDALL L. RASMUSSON, YUSHENG QU, and HAROLD C. STRAUSS. The calcium-independent transient outward potassium current in isolated ferret right ventricular myocytes. I. Basic characterization and kinetic analysis

603 DONALD L. CAMPBELL, YUSHENG QU, RANDALL L. RASMUSSON, and HAROLD C. STRAUSS. The calcium-independent transient outward potassium current in isolated ferret right ventricular myocytes. II. Closed state reverse use-dependent block by 4-aminopyridine

VOLUME 101 · NUMBER 5 · MAY 1993

629 TZYH-CHANG HWANG, MINORU HORIE, and DAVID C. GADSBY. Functionally distinct phospho-forms underlie incremental activation of protein kinase–regulated Cl^- conductance in mammalian heart

651 SAMUEL C. DUDLEY, JR. and CLIVE M. BAUMGARTEN. Modification of cardiac sodium channels by carboxyl reagents. Trimethyloxonium and water-soluble carbodiimide

673 WEN-HUI WANG, JOHN GEIBEL, and GERHARD GIEBISCH. Mechanism of apical K^+ channel modulation in principal renal tubule cells. Effect of inhibition of basolateral Na^+-K^+-ATPase

695 KYOH-ICHI TAKAHASHI, DONALD B. DIXON, and DAVID R. COPENHAGEN. Modulation of a sustained calcium current by intracellular pH in horizontal cells of fish retina

715 P. K. GASBJERG, J. FUNDER, and J. BRAHM. Kinetics of residual chloride transport in human red blood cells after maximum covalent 4,4′-diisothiocyanostilbene-2,2′-disulfonic acid binding

733 PHILIP B. DUNHAM, JADWIGA KLIMCZAK, and PAUL J. LOGUE. Swelling activation of K-Cl cotransport in LK sheep erythrocytes: a three-state process

767 PAUL A. SMITH, FRANCES M. ASHCROFT, and CLARE M. S. FEWTRELL. Permeation and gating properties of the L-type calcium channel in mouse pancreatic β cells

801 RICHARD S. LEWIS, PAUL E. ROSS, and MICHAEL D. CAHALAN. Chloride channels activated by osmotic stress in T lymphocytes

827 MIRIAM ECHEVARRIA, GUSTAVO FRINDT, GREGORY M. PRESTON, SNEZANA MILOVANOVIC, PETER AGRE, JORGE FISCHBARG, and ERICH E. WINDHAGER. Expression of multiple water channel activities in *Xenopus* oocytes injected with mRNA from rat kidney

843 Y. WANG, R. P. ERICKSON, and S. A. SIMON. Selectivity of lingual nerve fibers to chemical stimuli

867 ZHE LU, RICHARD L. MOSS, and JEFFERY W. WALKER. Tension transients initiated by photogeneration of MgADP in skinned skeletal muscle fibers

889 NORMAN WHISENANT, MAHROOZ KHADEMAZAD, and SHMUEL MUALLEM. Regulatory interaction of ATP Na^+ and Cl^- in the turnover cycle of the NaK2Cl cotransporter

909 MITCHELL N. FADDIS and JOEL E. BROWN. Intracellular injection of heparin and polyamines. Effects on phototransduction in *Limulus* ventral photoreceptors

933 JAMES L. MILLER and JUAN I. KORENBROT. In retinal cones, membrane depolarization in darkness activates the cGMP-dependent conductance. A model of Ca homeostasis and the regulation of guanylate cyclase

961 AUTHOR INDEX TO VOLUME 101